

STATUS

N E W S L E T T E R

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Editor's File

Printed Matter

The RS-232, Part I:
The Fundamentals

Telecomputing

To ST, or not...
Is THIS Your
Question?

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Editor's File

For those of you who haven't already heard (until your ears have started to bleed) I've got an ST! Yes, the little technical wonder arrived at the Rodriguez Ranch about mid November, and I've been having a great time with it ever since...

~~~~~  
**...we've gotten a  
reputation as a  
technically minded  
group...**  
~~~~~

The thing that impresses me the most is that it just *seems* more professional, not that the 800s don't have the same aura of quality, but this unit looks like it would be right at home on some secretary or CEO's desk. And that's what's going to make this machine a leader in the 68000 race.

In case you missed it (and I hope you did) there was no December issue of the Newsletter due to a total lack of contributors. I'm not gonna whine (or even moan) but now you know what my reaction will be in the future...

The New Year is upon us, and with it some changes: a new printer (more's the pity),

a few presentation changes (again!) and a few editorial changes that will make themselves apparent as the months progress. As far as the club goes, the biggest change with which we ring in the new year is the addition of a Hard drive (Supra 20Meg) and software (BBS Express!) to the STATUS BBS. These changes will hopefully make your on-line experiences a little more pleasant and rewarding (look from hints from Doug Boynton in future issues).

In the month and a half hiatus (I love that word, it makes you sound like you've been up to something) since putting out the last Newsletter, it's come to my attention that we've gotten a reputation as a technically minded group, publishing a Newsletter with lots of "Nuts n' Bolts" type articles. I think that's good. At least we don't fall between the plain vanilla cracks that some groups fall into (a plea for submissions, one review and three reprints a month), the only problem with that: I don't know the first thing about electronics! What's the problem, you might ask? Well, by and large, I'm solely responsible for what goes into this publication, and I'd hate to

let a typo or mistake slip through that would cause somebody to fry their drive or cause a similar mishap. To avoid that messy scenario, I'd like to ask you, the contributors and readers of STATUS to help me police these things... if you see a glaring mistake that only a "technical moron who didn't know one end of a soldering iron from the other" could make, it's probably because one did.

Let me know.

Thanks to Dick Litchfield, Jim Parks and our other "techies" for helping us get this reputation, and thanks to you (in advance) for helping us keep it untarnished.

Plenty of fun this month thanks to Buck Maddrey, Doug Boynton, Robert Eure and our requisite cast of thousands...

Printed Matter

Review by: BUCK MADDREY

EPSON FX85 Printer optional: Tractor Feed

EPSON America, Inc.

2780 Lomita Ave.

Torrance, California 90505

\$549.95 and \$49.95

Universal Printer Stand

Curtis Manufacturing Company,
Inc.

305 Union St

Peterborough, NH 03458

\$19.95

Dots-Perfect Upgrade Kit

Dresselhaus Computer Products

837 East Alosta Ave.

Glendora, CA 91740

\$79.95

In the computer world, certain standards were set in the beginning that have continued throughout the industry to date. Compatibility with these standards is a must and rightly so! Imagine the chaos if there were no industry standards. Parts and service for just about anything you can think of, would be a joke.

All of these standards are not laid down as law, however, some are. Some standards are just adopted by manufacturers and are adhered to by the rest. Printers are not an exception. Nearly 100%

of the printers on the market use a Centronics parallel connector. Why? Centronics was probably the first printer used for round the clock on-line installations, such as Civil Defense. Centronics printers are fast, have dual print heads and weigh up to 150 pounds. They also can stand up to the rigors of 24 hour use. For ease of replacement, the industry has adopted the centronics port.

EPSON is probably the leader of the new breed of printers. Being small, fast, and very cost efficient has made these printers the choice for replacement or start up installations, especially in the home computer market. Thus, the EPSON commands have become the standard of this industry. The new ATARI STs have been configured for these printers. Sure, there are EPSON compatible choices, but with a first class computer, why not go all the way?

Having just gotten a 1040 ST and finding out that the printer I had wasn't compatible, I decided to go first class. I chose the EPSON FX85. This is an upgraded version of an existing printer, the FX80. Unpacking the printer from its near bullet proof container and setting up was easy. A clear

and concise manual with plenty of pictures was included. After following EPSONS "10 steps to printing with the FX85" section, the new printer was on line and ready to print my first document in a little over 10 minutes.

The FX85 is rated at a speedy 160 characters per second bi-directional printing in draft mode which equates to about 30 seconds per page for a normal letter. It has both friction and pin feed built in and can handle single sheet or continuous feed paper. There is also an optional tractor feed for those pesky mailing labels. Switch from draft to 32 cps Near Letter Quality (NLQ) with a single stroke. An 8k buffer is built in and an optional 32k board allows you to continue to use the computer and print at the same time. It uses a 9 pin print head, which is user replaceable and is capable of bit image graphics at 60 to 240 dots per inch. It has a rear paper path and the feed mechanism pushes the paper through, which means, you don't waste a sheet every time you print and your view of the page is not blocked by the tractor feed. The carriage is offset to the left of the center. This eliminates the problem of the paper getting caught in the rather large Centronics plug

as experienced on other printers, and facilitates locating the paper directly under the printer when using a stand, an improvement I applaud.

The carriage and paper paths are covered by full size smoke colored plastic dust covers. These not only dampen the noise while printing but also eliminate any possibility of a completed page being drawn back into the printer accidentally. There is also an optional Cut Sheet Feeder (not reviewed) which will align, insert, print, and eject single sheets automatically. The optional tractor feed was packed separately and came with its own installation instructions (which I found a bit confusing). The pictures and instructions were not very clear and the installation was a bit challenging. I later found that there was a section in the main users manual covering this procedure which was much more explanatory.

The FX85 can print an original and two copies. To accomplish this you must adjust the paper-thickness setting by moving a small lever located under the front dust cover. There are reference marks but they are extremely hard to see. This

lever was factory set for standard paper at about 1/500th of an inch.

The FX85 character sets include: 96 ASCII characters, italic set, 11 international sets, 3 letter quality character sets and user-definable characters using the 11x9 matrix. There are six pitches, 5 to 17.5 cpi, emphasized and double strike, italic style and superscript and subscript, as well as underlined mode. Column widths supported include 80(Pica), 96(Elite), and 132(Condensed) with 480 to 1920 bit image graphics. The FX85 also has the standard and alternate IBM character sets. To access this mode or the international character sets you must reset some DIP switches located under a cover on the rear top of the printer. This cover is held in place by a plus head screw, which I feel is not necessary, as I had difficulty removing the cover even after removing the screw. All the DIP switches were preset at the factory. The only one I reset was the slashed zero. It was extremely hard to reset, but this is not something that has to be done often and I don't feel it is a problem.

The most unique feature of the FX85 printer is the

"Selec-Type" control panel. Selec-Type can produce nine special type styles and skip over perf. To use this feature, you turn on Selec-Type and select a type style and then turn off Selec-Type and print. This means that you can have several different type styles in a single line without inserting special control codes in your text. This would be especially useful for designing a special single page, say a report cover. However, most word processors do allow control code insertion into text which would accomplish the same goal. Note: FX, JX, RX, and Mx owners can upgrade to NLQ and Selec-Type by installing the Dots-Perfect Upgrade Kit (\$79.95) from Dresselhaus Computer Products, Glendora California.

To complete the installation, I chose a new product from the Curtis Manufacturing Company. The Curtis Universal Printer Stand (UPS) is designed to accommodate nearly all printers, standard or wide carriage. The UPS has two pair of legs, right or left, and a paper stacking tray of two piece construction. Configuring this stand for any printer is easy. Simply set the legs apart according to the width of your printer, slide open the stacking tray

to the same width, tighten two thumb-screws, and install onto the legs. Place your printer onto the stand and you are ready. The UPS is designed so that the power and computer cables can be routed out of the way. It allows for paper storage directly under the printer and places the printer at a pleasing height and angle. The UPS occupies twenty six inches of desktop space but by removing the stacking tray, this can be reduced to thirteen and a half inches. During a long printout, I guided the first few pages into the tray and it was automatic after that.

Well, there you have it! Two superior additions to my desktop. Both were the right choice for me and worthy of your considerations, and they both are backed by one year warranties... Oh, by the way, the ST graphic dumps are truly AWESOME!

RS-232-C Studied: Part I - The Fundamentals

By Robert G. Eure

The term RS-232-C is often referenced these days, but many computer users do not understand what the term means. This study is an attempt to inform interested readers about this interface

standard. The Electronic Industries Association (EIA) published the RS-232-C standard in 1969. The standard was developed from the need to use the telephone network for data communications.

In the term RS-232-C, the "RS" stands for Recommended Standard. The identification number of the standard is 232 and the "C" indicates the number of times the standard has been revised. The title of the standard is "Interface Between Data Terminal Equipment(DTE)and Data Communication Equipment(DCE)Employing Serial Binary Data Interchange."

For the purposes of microcomputer users with modems, the microcomputer is the DTE and the modem is the DCE. Therefore, the RS-232-C interface is used between the microcomputer and the modem.

The data transmission rates between DCEs and DTEs range from 0 to 20,000 bits per second (bps). The standard suggests the cable between the DTE and the DCE be no longer than 50 feet. The most used transmission type is the asynchronous serial character transmission. This means that framing bits are added to the raw data bits to

identify the beginning and the end of each character and resynchronization occurs on a character-by-character basis.

The 7-bit ASCII code is the most used code on microcomputer systems today. ASCII stands for the American Standard Code for Information Interchange. To transmit one character of data in ASCII code using asynchronous transmission, it takes ten data bits. They are: a start bit, seven data bits, a parity bit and a stop bit. Therefore, 300bps equates to 30 characters a second and 1200 bps equates to 120 characters per second. Of course, this is maximum transmission rate at these speeds and does not allow for things that slow transmissions down like retransmission due to detected errors and disk access time.

The RS-232-C standard does not reference the D-type 25-pin connector (or DB25) plugs and sockets, but they are typically associated with the devices using the RS-232-C interface. This type of connector is in compliance with the International Organization for Standardization (ISO) 2113 standard. Only 3 of the 25 pins are currently unassigned. Typically, only a subset of pin assignments are used

leaving still more pins
unused.

Each pin used on the RS-232-C connector has a signal which must be at one of two states as follows:

Binary Logic State	1	0
Signal Condition	Mark	Space
Function	Off	On

A circuit driver must apply a voltage between -5 and -15 Volts to represent a logic 1 or MARK condition and a voltage between +5 and +15 Volts to represent a logic 0 or SPACE condition. The standard requires the design not to exceed 25 Volts in an open or no-load circuit. The driver circuit should also be designed to withstand a short circuit to any other cable wire without sustaining damage to any components.

Further information can be obtained from my source, "Data Communications for Microcomputers with Practical Applications and Experiments" by Nichols, Nichols and Musson, a McGraw-Hill book.

Telecomputing

By Doug Boynton

Our "pals" at CompuServe are at it again. The latest pronouncement from Columbus boils down to this: We intend to be wealthy. Very wealthy. Perhaps you thought of CIS as sort of a nationwide BBS, chock full of the latest public domain programs for your computer. You paid an hourly rate to CIS that covered their costs, made them a nifty profit, and all was well with the world. Right?

~~~~~  
**We intend to be  
wealthy.  
VERY wealthy...**  
~~~~~

Well, wrong. What you do with those p/d programs AFTER you download them upsets the folks at H & R Block (CompuServe's parent company) a lot. For example, you'd better not upload them to a BBS...because CompuServe claims a copyright on them! How, you might ask. Good question. According to a policy statement CIS issued recently, their copyright comes because they've taken the time to sort and test the programs... even though the program itself may be the copyrighted work of someone else.

Now, what happens if you should trade the program with another person? CIS says that's okay...for now. The official statement goes something like, we choose not to prosecute AT THIS TIME.

Looks like it boils down to a couple of things. Either CIS is upset because files they've posted are quickly finding their way to GENic, the (much cheaper) competition... or to user group bulletin board systems. Either way, they figure they're losing money. I'm sorely tempted to pull the plug on CIS... with a suggestion on what they can do with their 12 dollars plus per hour.

Sigh. On to brighter notes. 20 mcgs are in our future. By the time you read this, compu-doggies Babs and Catlin should be helping me set up a 20 meg hard drive at the (rather massive) STATUS Computing Centre. A revamping of the program that drives the BBS is also in order, and chances are that the next column will be tips and pointers on the best way to get around the new system. As I write this, I'm seriously considering BBS Express! by Keith Ledbetter, but I'm shopping around for other programs, as well.

At any rate, 20 mcgs equals about 150-200 8-bit disks; and about 60 single-sided ST disks, so there will be plenty of room for just about anything, and we'll be able to keep programs posted much longer.

Still no word from Atari on the 1200 baud modem. It keeps showing up at shows, but not in the stores.

Hope you got everything you wanted for the holidays...and then some.

Keep 'em flying!

To ST or Not... Is This Your Question?

By Buck Maddrey

Let me start off by saying that in the past, it seems that every time I decided to make a contribution to this newsletter, a similar article would appear on the pages of one of the Atari monthly magazines. This time is no exception, but I'm puttin' my two cents worth in anyhow!

I became the owner of a 1040 color system about two months ago. I put together a little cash, some expertise, labor know how and ability,

and "bartered" my way into ownership of the 1 Meg ST-ship of the Atari line, which I consider was a good deal for both parties involved.

During the preceding months, I had often thought about "moving up". But then, its hard not to think about "moving up" when all your close friends are doing just that, and, all the magazines are full of pages of ads for new ST products, screen dumps of far superior graphics, and articles describing new capabilities! I had begun to be overwhelmed by all this. I had rationalized that there was really only one thing holding me back from taking the big step, my budget!

~~~~~  
**There are some of us  
who just HAVE to  
have the latest  
technology available...**  
~~~~~

During the three years of owning my 800, I had managed to establish a substantial software library, and could easily sit down at the computer and do just about anything I could think of. I envisioned, that getting a new computer, that was NOT compatible with the software I already had, would mean "starting all over again", and

the budget just could not survive another attack. So, I had programmed myself to be satisfied with what I had. Then, an opportunity to "move up anyway" came along. So, here I am... moved up.

The 1040 hardware is basically three pieces, the CPU, the mouse, and the monitor. There are no bunches of cables, no interfaces, no external drives or power supplies to clutter up your work space. The power supply is built in as well as a double sided/double density drive. This makes the footprint of the CPU rather large and quite heavy. Access to the drive is located on the right hand side toward the rear, which could be awkward for the "lefties", and failure of the drive or the power unit could result in the heart of the system in the repair shop.

If your monitor happens to fail, you are also out of luck. The ST can only be connected to an ATARI monitor. It even uses a special cable plug to insure this fact. Experimenters have blown the computer by trying to interface to other monitors via alligator clips and jumper cables. A recent article stated that engineers at Sony "gave up" trying to connect it

to their latest monitor.

The keyboard itself is also quite different. It has over 90 keys. The cursor control keys are in a group by themselves as well as a numeric keypad, and several of the other keys have been relocated. There are lots of new keys too, Help, Undo, and 10 Function keys to mention a few. Upon close examination of the keyboard unit, there appears to be no place to plug in the mouse controller or a joystick, aha... but there is! Its underneath. This sure puts it of the way, but without unplugging the rear cables and lifting it up or (even better) turning it over, it's a real challenge to make the connections. Perhaps they should have included a pair of needle nose pliers for us people with big hands and fingers. The on/off and reset buttons are located on the rear as well as the power cord receptacle and modem and printer connections.

There are also receptacles for a hard drive and additional floppy drives. The MIDI (Musical Instrument Digital Interface) ports and cartridge slot are located on the left side of the console.

Getting the first disk booted was no chore at all

after reading and understanding a whole new world of terms. Point, click, double click, drag, open window,... no this isn't a page out of a Mickey Spillane novel, these are terms used in the GEM desktop. There are also a whole new batch of file extenders to recognize and deal with. For example: TOS, TTP, RSC, PRG, ACC, BAT, ARC, and DOC or TXT to mention a few. The last two being the only ones that I had even seen before.

Write protecting a disk used to mean put a tab over the notch, but not on the ST. The 3.5" disks have a slide type tab that you have to slide "open" to protect it and closed to unprotect. A bit confusing, eh? Files that are moved, rewritten, etc, are time and date stamped. That is, provided you have the Control panel .ACC on your bootup disk and don't forget to set the current time and date. If there is no control panel, or you forget, all files are stamped 11/20/85 (the default time/date). The screen and background color, key repeat speed, and mouse control are also functions of the control panel.

One of the unique features of the ST is to do a screen dump anytime you are in

the GEM Desktop. I was anxious to try this. I moved my printer alongside the ST and encountered my first problem: the cable. My old 850 cable would not work. It plugged into the printer but not the ST, so, not wanting to destroy my 850 cable, I had to shop for a new IBM (???) to Centronics cable, with prices ranging from 15 to 30 dollars.

With the new cable installed, I fired up the computer with a new piece of software, Timeworks Data Manager ST (to be reviewed at a later date). I created a file and went to the print option only to find out the program only supports the Epson printers and there is no revision planned to include any others for at least six months. Next, I tried a plain old screen dump. Wow! Was it awesome! No, there weren't any impressive graphics, instead my printer had spewed out garbage on one page and then about six blank pages before I could get to the off/on switch.

Come to find out, the ST is configured for Epson printers. Some Epson compatibles will work, but beware! Epson compatibles are not always 100% compatible. Even after installing a Tom Hudson (DEGAS) printer driver,

I still could not do graphic dumps, the one thing I had especially looked forward to in owning the new ST. I was not about to give up at this point, I had invested \$110.00 in the cable and software, so I was off to find an Epson printer (reviewed elsewhere in this newsletter).

The problems that I have encountered may be unique to my situation only. The fact remains that there is an awful lot to learn about this new computer as well as hardware restrictions. Everything, from the GEM to basic, disk access to error codes, word processing and terminal software, its all new! Imagine:

A-Basic programming with three windows...

B-5 or 6 new languages...

C-A 17k program with 200k of support programs...

D-Downloading 217k programs...

E-Higher prices for software and hardware...

F-Etc.

There are some of us that just have to have the latest technology available. Whether its CD players for our music interests, turbo charged sports cars, or new high horsepower computers. We all have the basic desire for

these new things and somehow we manage to afford such luxuries. I guess the big question we all have to deal with though, is: "Do I really NEED it?"

To help determine that answer, evaluate the following questions relative to your own situation. "Is my 130XE too small and too slow for "MY" capability? "Am I using it to it's full potential?" "Is the particular software I need available?" And finally, "Do I really want to start all over?"

I don't feel that the new ST line of computers is the right choice for an entry level system. Consider the availability of low cost software for the eight bits, the powerful language cartridges from OSS, and word processors and graphics programs unequalled on any computer. To ST or not? The choice is yours.

p.s. I should admit to you that this article was written and uploaded with my old 800 and a 16k version of ATARIWRITER, because the 1200 baud modem I have won't work on the ST!

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